REMARKS

Claims 1-21 are pending in this application. Claims 1-21 are rejected. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 1-11 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Mori (U.S. Patent 5,389,880). Additionally, the Office Action states that Molyneaux (U.S. Patent 5,398,087), which is used to reject claims 12-21 is also equally applicable to reject claims 1-11. Applicants respectfully traverse this rejection.

As an initial matter, Applicants assume that the Office Action intended to reject the claims based on Molyneux (U.S. Patent 5,394,087) and that the patent number in the Office Action was a typographical error. U.S. Patent 5,394,087 is to Kazami. Accordingly, Applicants are addressing Molyneaux (U.S. Patent 5,394,087).

Mori describes a magnetic resonance imaging apparatus having surface coil assemblies comprising an 8-shaped coil and a rectangular coil (abstract). Specifically, the apparatus of Mori combines an 8-shaped surface coil 10 and a rectangular surface coil 12. The 8-shaped surface coil 10 has a sensitivity in an x-direction RF magnetic field near the spine array of a patient, and the rectangular coil 12 has a sensitivity in a y-direction RF magnetic field at the same position (column 6, lines 11-17).

Claim 1 recites a coil arrangement for a medical imaging system comprising "a plurality of twisted portions in combination with the plurality of coil elements, and wherein a twisted portion is provided between each adjacent coil element of the plurality of coil elements." Mori fails to describe or suggest such a coil arrangement. Although, Mori shows a pair of 8-shaped coil elements, the rectangular surface coil elements adjacent to the 8-shaped coil elements do not include any twisted portion. The rectangular surface coil elements are connected by straight wires. A rectangular surface coil simply cannot have a twisted portion. Further, the rectangular surface coil elements do not provide any twisted portion connection to the 8-shaped coil elements. In contrast to the coil arrangement recited in claim 1, Mori simply does not describe or suggest a twisted portion provided between *each*

adjacent coil element of the plurality of coil elements. Accordingly, Mori does not describe or suggest a coil arrangement as recited in claim 1.

Further, Molyneux describes a multiple quadrature surface coil system including a plurality of quadrature coil pairs wherein each coil pair includes a loop coil or other coil that is sensitive to radio frequency signal components that are perpendicular to the coil and a flat Helmholtz coil or other coil that that is sensitive to radio frequency components that are parallel to the plane of the coil (abstract). The quadrature pair is illustrated as including a rectangular loop coil and a flat Helmholtz coil of substantially square design. It is also noted that other coils are contemplated. For example, the loop coil can be square, rectangular, circular, elliptical, or combinations thereof. Counter-rotating loop coils and double loop coils, such as loop coils disposed above and below the subject, can also be utilized. The coil which is sensitive to magnetization parallel to the plane instead of being a flat Helmholtz coil can also be a butterfly coil, a planar pair, or the like (column 5, lines 5-15).

In contrast to the coil arrangement recited in claim 1, Molyneux also requires that one of the coil element have no twisted portion. Specifically, one of the coil pairs is configured as a loop coil, and although having different shapes, never includes a twisted portion. Molyneux simply does not describe or suggest a twisted portion provided between *each* adjacent coil element of the plurality of coil elements. Accordingly, Molyneux does not describe or suggest a coil arrangement as recited in claim 1.

Claims 2-11 depend from independent claim 1. When the recitations of these claims are considered in combination with the recitations of claim 1, Applicants submit that these dependent claims are likewise patentable over Mori and Molyneux for at least the same reasons set forth above.

Thus, for at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claims 1-11 be withdrawn.

Claims 12-21 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Molyneux (U.S. Patent 5,394,089). Additionally, the Office Action states that Mori (U.S.

Patent 5,389,880), which is used to reject claims 1-11 is also equally applicable to reject claims 12-21. Applicants respectfully traverse this rejection.

As an initial matter, Applicants assume that the Office Action intended to reject the claims based on Molyneux (U.S. Patent 5,394,087) and that the patent number in the Office Action was a typographical error. U.S. Patent 5,394,089 is to Clegg. Accordingly, Applicants are addressing Molyneaux (U.S. Patent 5,394,087).

Claim 12 recites a coil array for a medical imaging system comprising "a second coil array portion having a multi-lobe saddle train, the multi-lobe saddle train comprising a plurality of twisted portions and wherein a twisted portion is provided between each adjacent lobe of the multi-lobe saddle train." Molyneaux and Mori fail to describe or suggest such a coil array. As discussed in more detail above, these reference simply do not describe or suggest a multi-lobe saddle train comprising a plurality of twisted portions and wherein a twisted portion is provided between *each* adjacent lobe of the multi-lobe saddle train. Accordingly, Molyneux and Mori do not describe or suggest a medical imaging system as recited in claim 12.

Claims 13-19 depend from independent claim 12. When the recitations of these claims are considered in combination with the recitations of claim 12, Applicants submit that these dependent claims are likewise patentable over Molyneaux and Mori for at least the same reasons set forth above.

Claim 20 recites a method for providing coil arrays for a medical imaging system comprising "providing a twisted portion between each adjacent coil element of the plurality of coil elements." Molyneaux and Mori fail to describe or suggest such a method. As discussed in more detail above, these references simply do not describe or suggest providing a twisted portion between each adjacent coil element of the plurality of coil elements. Accordingly, Molyneux and Mori do not describe or suggest a method as recited in claim 20.

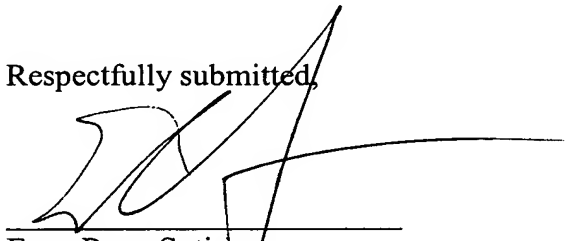
Claim 21 depends from independent claim 20. When the recitations of this claim are considered in combination with the recitations of claim 20, Applicants submit that this

dependent claim is likewise patentable over Molyneaux and Mori for at least the same reasons set forth above.

Thus, for at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claims 12-21 be withdrawn.

In view of the foregoing remarks, it is respectfully submitted that the prior art fails to teach or suggest the claimed invention and all of the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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